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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,890	11/03/2003	Patrick T. McMullen		2686

7590 12/13/2004

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EXAMINER

COMAS, YAHVEH

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Av

Office Action Summary	Application No.	Applicant(s)	
	10/698,890	MCMULLEN ET AL.	
	Examiner	Art Unit	
	Yahveh Comas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/8/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,6 and 8 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 5, 6 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-2, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ifrim WO 01/22560 A1 in view of Banon U.S. Patent Number 5,066,880.

Ifrim discloses a sleeveless permanent magnets rotor subassembly having a longitudinal axis, first and second ends and at least two pole comprising a plurality of permanent magnets (56) in the direction of the longitudinal axis, said permanent magnets (56) having sides tapered to a predetermined angle and a bottom surface, a plurality of rotor poles (58) which can be solid or laminated, having first and second ends extending in the direction of said longitudinal axis, said rotor poles (58) having sides tapered to predetermined angle and a bottom surface, said permanent magnets

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(56) and rotor poles (58) being positioned adjacent each other in a manner such the tapered sides of said rotor poles (58) are in contact with the tapered sides of adjacent magnets (56), and a first cap (52) member positioned at said first end of said subassembly and adjacent said first end of said rotor poles (58) in a manner to retain the rotor poles and the permanent magnets to form an integral subassembly. The first cap member (52) is directly fastened to said rotor poles in the radial direction with plurality of bolt member (60) having a first and second ends extend through said rotor poles and said first cap member (52) and said second cap member (54), said rotor poles extend in a direction toward said second subassembly (54) end and terminating a distance therefrom. Also include a second cap member (52) positioned at said second end of said subassembly. Ifrim doesn't disclose an elongated member having an outer surface extending in the direction of said longitudinal axis being formed of non-magnetic material, wherein the bottom surface of said rotor poles being substantially in contact with the outer surface of said elongated member and the bottom surface of said magnets being the only portion thereof in contact with the outer surface of said elongated member.

However, Banon discloses a permanent magnet rotor having an elongated member (15) having an outer surface extending in the direction of said longitudinal axis being formed of non-magnetic material, wherein the bottom surface of said rotor poles (14) being substantially in contact with the outer surface of said elongated member and the bottom surface of said magnets (12) being the only portion thereof in contact with the outer surface of said elongated member (15) for the purpose of obtaining a high

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mass torque machine. Also the permanent magnet rotor has a plurality of bolt member having a first and second ends extend through said rotor poles and said first cap member and said second cap member, said bolt member being secured in place by fasteners members (see figure 1).

Therefore, it would have been obvious to one having skill in the art at the time Ifrim's invention was made to provide a rotor having an elongated member having an outer surface extending in the direction of said longitudinal axis being formed of non-magnetic material, wherein the bottom surface of said rotor poles being substantially in contact with the outer surface of said elongated member and the bottom surface of said magnets being the only portion thereof in contact with the outer surface of said elongated member as disclosed by Banon since that would have been desirable to obtain a high mass torque machine.

Regarding the taper angle of each rotor pole is in a range between approximately 5 to 15 degrees, it would have been obvious to one having ordinary skill in the art at the time the invention was made to taper the rotor poles disclosed by Ifrim in a range between approximately 5 to 15 degrees, in order to optimize performance of the machine, and because it has been held that merely optimized known dimensions is within the ordinary skill in the art. (See *In re Aller*, 105 USPQ 233.)

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ifrim WO 01/22560 A1 in view of Banon U.S. Patent Number 5,066,880 and in further view of Meisner et al. U.S. Patent No. 4,644,210

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Ifrim in view of Banon, disclose the claimed invention except for the end cap is shrink fitted onto said rotor poles. However, Meisner disclose the use of a shrink fit of the end cap during the assembly of said end cap (84) in order to reduce the tendency of the end cap to become loose on the shaft due to the rotational forces.

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to shrink said end cap during assembly as disclosed by Meisner since this would had been desirable to reduce the tendency of the end cap to become loose.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

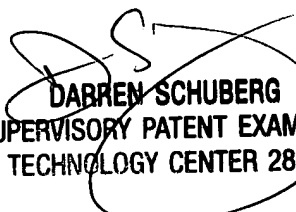
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yahveh Comas whose telephone number is (571)272-2020. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YC


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